

Amendments to the Claims

This listing of the claims below will replace all prior versions and listing of claims in this application.

22. (Currently amended) A genetically modified dicotyledonous plant cell comprising
- (1) a first foreign nucleic acid molecule, wherein said first foreign nucleic acid molecule is
 - (a) a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a SSIII protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 1;
 - (b) a DNA molecule which, via a co-suppression effect, reduces the expression of at least one endogenous gene encoding a ~~binding domain of a~~ SSIII protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 1; or
 - (c) a DNA molecule that simultaneously encodes at least one antisense RNA and at least one sense RNA, where said antisense RNA and said sense RNA form a double-stranded RNA molecule that reduces the expression of at least one endogenous gene encoding a ~~binding domain of a~~ SSIII protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 1;
 - (2) a second foreign nucleic acid molecule, wherein said second foreign nucleic acid molecule is
 - (a) a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a BEI protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 4;
 - (b) a DNA molecule which, via a co-suppression effect, reduces the expression of at least one endogenous gene encoding a BEI protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 4; or
 - (c) a DNA molecule that simultaneously encodes at least one antisense RNA and at least one sense RNA, where said antisense RNA and said sense RNA form a double-stranded RNA molecule that reduces the expression of at least one endogenous gene encoding a BEI protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 4; and
 - (3) a third foreign nucleic acid molecule, wherein said third foreign nucleic acid molecule is

- (a) a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a BEII protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 6;
- (b) a DNA molecule which, via a co-suppression effect, reduces the expression of at least one endogenous gene encoding a BEII protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 6; or
- (c) a DNA molecule that simultaneously encodes at least one antisense RNA and at least one sense RNA, where said antisense RNA and said sense RNA form a double-stranded RNA molecule that reduces the expression of at least one endogenous gene encoding a BEII protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 6; and

wherein said plant cell synthesizes a modified starch having an amylose content of at least 30%, an increased phosphate content in comparison with starch from a corresponding wild-type plant cell, and an increased end viscosity in comparison with starch from a corresponding wild-type plant cell.

23. (Previously presented) The plant cell of claim 22, wherein said modified starch has an increased gel strength in comparison with starch from a corresponding wild-type plant cell.

24. (Previously presented) The plant cell of claim 23, wherein said modified starch, which after gelatinization of a 6% suspension in water forms a gel with a gel strength that is increased by at least 300% in comparison with the gel strength of starch extracted from a corresponding wild-type plant cell.

25. (Previously presented) A plant comprising the plant cell according to claim 22.

26. (Previously presented) The plant according to claim 25, wherein said plant is a starch-storing plant.

27. (Previously presented) The plant according to claim 26, wherein said plant is a potato plant.

28. (Previously presented) Propagation material of the plant according to claim 25, wherein said propagation material comprises said first, second, and third foreign nucleic acid molecules.

29. (Previously presented) The plant cell of claim 22, wherein

said first foreign nucleic acid molecule is a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a SSIII protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 1;

said second foreign nucleic acid molecule is a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a BEI protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 4; and

said third foreign nucleic acid molecule is a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a BEII protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 6.

30. (Currently amended) The plant cell of claim 22, wherein

(1) said first foreign nucleic acid molecule is

(a) a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a SSIII protein, said DNA molecule comprising SEQ ID NO: 1;

(b) a DNA molecule which, via a co-suppression effect, reduces the expression of at least one endogenous gene encoding a ~~binding domain of a~~ SSIII protein, said DNA molecule comprising SEQ ID NO: 1; or

(c) a DNA molecule that simultaneously encodes at least one antisense RNA and at least one sense RNA, where said antisense RNA and said sense RNA form a double-stranded RNA molecule that reduces the expression of at least one endogenous gene encoding a ~~binding domain of a~~ SSIII protein, said DNA molecule comprising SEQ ID NO: 1;

(2) a second foreign nucleic acid molecule, wherein said second foreign nucleic acid molecule is

- (a) a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a BEI protein, said DNA molecule comprising SEQ ID NO: 4;
 - (b) a DNA molecule which, via a co-suppression effect, reduces the expression of at least one endogenous gene encoding a BEI protein, said DNA molecule comprising SEQ ID NO: 4; or
 - (c) a DNA molecule that simultaneously encodes at least one antisense RNA and at least one sense RNA, where said antisense RNA and said sense RNA form a double-stranded RNA molecule that reduces the expression of at least one endogenous gene encoding a BEI protein, said DNA molecule comprising SEQ ID NO: 4; and
- (3) a third foreign nucleic acid molecule, wherein said third foreign nucleic acid molecule is
- (a) a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a BEII protein, said DNA molecule comprising SEQ ID NO: 6;
 - (b) a DNA molecule which, via a co-suppression effect, reduces the expression of at least one endogenous gene encoding a BEII protein, said DNA molecule comprising SEQ ID NO: 6; or
 - (c) a DNA molecule that simultaneously encodes at least one antisense RNA and at least one sense RNA, where said antisense RNA and said sense RNA form a double-stranded RNA molecule that reduces the expression of at least one endogenous gene encoding a BEII protein, said DNA molecule comprising SEQ ID NO: 6;

31. (Previously presented) The plant cell of claim 30, wherein

said first foreign nucleic acid molecule is a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a SSIII protein, said DNA molecule comprising SEQ ID NO: 1;

said second foreign nucleic acid molecule is a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a BEI protein, said DNA molecule comprising SEQ ID NO: 4; and

said third foreign nucleic acid molecule is a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a BEII protein, said DNA molecule comprising SEQ ID NO: 6.

32. (Previously presented) A method for generating a genetically modified dicotyledonous plant, comprising

- a) introducing into a plant cell a first, second, and third foreign nucleic acid molecule;
- b) regenerating a plant from, or using, said cell generated in accordance with a); and
- c) optionally generating further plants from said plants generated in accordance with step b),

wherein

(1) said first foreign nucleic acid molecule is

- (a) a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a SSIII protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 1;
- (b) a DNA molecule which, via a co-suppression effect, reduces the expression of at least one endogenous gene encoding a SSIII protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 1; or
- (c) a DNA molecule that simultaneously encodes at least one antisense RNA and at least one sense RNA, where said antisense RNA and said sense RNA form a double-stranded RNA molecule that reduces the expression of at least one endogenous gene encoding a SSIII protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 1;

(2) said second foreign nucleic acid molecule is

- (a) a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a BEI protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 4;
- (b) a DNA molecule which, via a co-suppression effect, reduces the expression of at least one endogenous gene encoding a BEI protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 4; or

- (c) a DNA molecule that simultaneously encodes at least one antisense RNA and at least one sense RNA, where said antisense RNA and said sense RNA form a double-stranded RNA molecule that reduces the expression of at least one endogenous gene encoding a BEI protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 4; and
- (3) said third foreign nucleic acid molecule is
- (a) a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a BEII protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 6;
- (b) a DNA molecule which, via a co-suppression effect, reduces the expression of at least one endogenous gene encoding a BEII protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 6; or
- (c) a DNA molecule that simultaneously encodes at least one antisense RNA and at least one sense RNA, where said antisense RNA and said sense RNA form a double-stranded RNA molecule that reduces the expression of at least one endogenous gene encoding a BEII protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 6; and

wherein said plant cell synthesizes a modified starch having an amylose content of at least 30%, an increased phosphate content in comparison with starch from a corresponding wild-type plant cell, and an increased end viscosity in comparison with starch from a corresponding wild-type plant cell.

33. (Previously presented) The method of claim 32, wherein said modified starch has an increased gel strength in comparison with starch from a corresponding wild-type plant cell.
34. (Previously presented) The method of claim 32, wherein said modified starch, which after gelatinization of a 6% suspension in water forms a gel with a gel strength that is increased by at least 300% in comparison with the gel strength of starch extracted from a corresponding wild-type plant cell.

35. (Previously presented) The plant obtainable by the method of claim 32, wherein said plant is a starch-storing plant.
36. (Previously presented) Propagation material of the plant of claim 35, wherein said propagation material comprises said first, second, and third foreign nucleic acid molecules.
37. (Previously presented) A method for generating a genetically modified dicotyledonous plant cell comprising introducing into a dicotyledonous plant cell a first, second, and third foreign nucleic acid molecule, wherein
- (1) said first foreign nucleic acid molecule is
 - (a) a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a SSIII protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 1;
 - (b) a DNA molecule which, via a co-suppression effect, reduces the expression of at least one endogenous gene encoding a SSIII protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 1; or
 - (c) a DNA molecule that simultaneously encodes at least one antisense RNA and at least one sense RNA, where said antisense RNA and said sense RNA form a double-stranded RNA molecule that reduces the expression of at least one endogenous gene encoding a SSIII protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 1;
 - (2) said second foreign nucleic acid molecule is
 - (a) a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a BEI protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 4;
 - (b) a DNA molecule which, via a co-suppression effect, reduces the expression of at least one endogenous gene encoding a BEI protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 4; or
 - (c) a DNA molecule that simultaneously encodes at least one antisense RNA and at least one sense RNA, where said antisense RNA and said sense RNA form a double-stranded RNA molecule that reduces the expression of at least one endogenous gene

encoding a BEI protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 4; and

(3) said third foreign nucleic acid molecule is

(a) a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a BEI protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 6;

(b) a DNA molecule which, via a co-suppression effect, reduces the expression of at least one endogenous gene encoding a BEI protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 6; or

(c) a DNA molecule that simultaneously encodes at least one antisense RNA and at least one sense RNA, where said antisense RNA and said sense RNA form a double-stranded RNA molecule that reduces the expression of at least one endogenous gene encoding a BEI protein, said DNA molecule comprising at least 95% identity with SEQ ID NO: 6; and

wherein said plant cell synthesizes a modified starch having an amylose content of at least 30%, an increased phosphate content in comparison with starch from a corresponding wild-type plant cell, and an increased end viscosity in comparison with starch from a corresponding wild-type plant cell.

38. (Previously presented) The method of claim 37, wherein said modified starch has an increased gel strength in comparison with starch from a corresponding wild-type plant cell

39. (Previously presented) The method of claim 38, wherein said modified starch, which after gelatinization of a 6% suspension in water forms a gel with a gel strength that is increased by at least 300% in comparison with the gel strength of starch extracted from a corresponding wild-type plant cell.

40. (Previously presented) A method for modifying the starch of a plant, comprising generating the plant according to claim 25, and obtaining starch from said plant or starch-containing parts thereof.

41. (Previously presented) A method for modifying the starch of a plant, comprising generating the plant according to claim 35, and obtaining starch from said plant or starch-containing parts thereof.
42. (Currently amended) A genetically modified dicotyledonous plant cell comprising
- (1) a first foreign nucleic acid molecule, wherein said first foreign nucleic acid molecule is
- (a) a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a SSIII protein, said DNA molecule comprising at least ~~45~~ 100 nucleotides of SEQ ID NO: 1;
- (b) a DNA molecule which, via a co-suppression effect, reduces the expression of at least one endogenous gene encoding a ~~binding domain of a~~ SSIII protein, said DNA molecule comprising at least ~~45~~ 100 nucleotides of SEQ ID NO: 1; or
- (c) a DNA molecule that simultaneously encodes at least one antisense RNA and at least one sense RNA, where said antisense RNA and said sense RNA form a double-stranded RNA molecule that reduces the expression of at least one endogenous gene encoding a ~~binding domain of a~~ SSIII protein, said DNA molecule comprising at least ~~45~~ 100 nucleotides of SEQ ID NO: 1;
- (2) a second foreign nucleic acid molecule, wherein said second foreign nucleic acid molecule is
- (a) a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a BEI protein, said DNA molecule comprising at least ~~45~~ 100 nucleotides of SEQ ID NO: 4;
- (b) a DNA molecule which, via a co-suppression effect, reduces the expression of at least one endogenous gene encoding a BEI protein, said DNA molecule comprising at least ~~45~~ 100 nucleotides of SEQ ID NO: 4; or
- (c) a DNA molecule that simultaneously encodes at least one antisense RNA and at least one sense RNA, where said antisense RNA and said sense RNA form a double-stranded RNA molecule that reduces the expression of at least one endogenous gene encoding a BEI protein, said DNA molecule comprising at least ~~45~~ 100 nucleotides of SEQ ID NO: 4; and

(3) a third foreign nucleic acid molecule, wherein said third foreign nucleic acid molecule is

- (a) a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a BEII protein, said DNA molecule comprising at least ~~±5~~ 100 nucleotides of SEQ ID NO: 6;
- (b) a DNA molecule which, via a co-suppression effect, reduces the expression of at least one endogenous gene encoding a BEII protein, said DNA molecule comprising at least ~~±5~~ 100 nucleotides of SEQ ID NO: 6; or
- (c) a DNA molecule that simultaneously encodes at least one antisense RNA and at least one sense RNA, where said antisense RNA and said sense RNA form a double-stranded RNA molecule that reduces the expression of at least one endogenous gene encoding a BEII protein, said DNA molecule comprising at least ~~±5~~ 100 nucleotides of SEQ ID NO: 6; and

wherein said plant cell synthesizes a modified starch having an amylose content of at least 30%, an increased phosphate content in comparison with starch from a corresponding wild-type plant cell, and an increased end viscosity in comparison with starch from a corresponding wild-type plant cell.

43. (Previously presented) The plant cell of claim 42, wherein said modified starch has an increased gel strength in comparison with starch from a corresponding wild-type plant cell.

44. (Previously presented) The plant cell of claim 43, wherein said modified starch, which after gelatinization of a 6% suspension in water forms a gel with a gel strength that is increased by at least 300% in comparison with the gel strength of starch extracted from a corresponding wild-type plant cell.

45. (Previously presented) A plant comprising the plant cell according to claim 42.

46. (Previously presented) The plant according to claim 45, wherein said plant is a starch-storing plant.

47. (Previously presented) The plant according to claim 46, wherein said plant is a potato plant.

48. (Previously presented) Propagation material of the plant according to claim 45, wherein said propagation material comprises said first, second, and third foreign nucleic acid molecules.

49. (Canceled)

50. (Canceled)

51. (Currently amended) The plant cell of claim ~~50~~ 42, wherein
said first foreign nucleic acid molecule is a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a SSIII protein, said DNA molecule comprising at least 100 nucleotides of SEQ ID NO: 1;
said second foreign nucleic acid molecule is a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a BEI protein, said DNA molecule comprising at least 100 nucleotides of SEQ ID NO: 4; and
said third foreign nucleic acid molecule is a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a BEII protein, said DNA molecule comprising at least 100 nucleotides of SEQ ID NO: 6.

52. (Currently amended) The plant cell of claim ~~50~~ 42, wherein
(1) said first foreign nucleic acid molecule is
(a) a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a SSIII protein, said DNA molecule comprising at least 500 nucleotides of SEQ ID NO: 1;
(b) a DNA molecule which, via a co-suppression effect, reduces the expression of at least one endogenous gene encoding a ~~binding domain of a~~ SSIII protein, said DNA molecule comprising at least 500 nucleotides of SEQ ID NO: 1; or
(c) a DNA molecule that simultaneously encodes at least one antisense RNA and at least one sense RNA, where said antisense RNA and said sense RNA form a double-stranded RNA molecule that reduces the expression of at least one

endogenous gene encoding a ~~binding domain of a~~ SSIH protein, said DNA molecule comprising at least 500 nucleotides of SEQ ID NO: 1.

(2) a second foreign nucleic acid molecule, wherein said second foreign nucleic acid molecule is

(a) a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a BEI protein, said DNA molecule comprising at least 500 nucleotides of SEQ ID NO: 4;

(b) a DNA molecule which, via a co-suppression effect, reduces the expression of at least one endogenous gene encoding a BEI protein, said DNA molecule comprising at least 500 nucleotides of SEQ ID NO: 4; or

(c) a DNA molecule that simultaneously encodes at least one antisense RNA and at least one sense RNA, where said antisense RNA and said sense RNA form a double-stranded RNA molecule that reduces the expression of at least one endogenous gene encoding a BEI protein, said DNA molecule comprising at least 500 nucleotides of SEQ ID NO: 4; and

(3) a third foreign nucleic acid molecule, wherein said third foreign nucleic acid molecule is

(a) a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a BEII protein, said DNA molecule comprising at least 500 nucleotides of SEQ ID NO: 6;

(b) a DNA molecule which, via a co-suppression effect, reduces the expression of at least one endogenous gene encoding a BEII protein, said DNA molecule comprising at least 500 nucleotides of SEQ ID NO: 6; or

(c) a DNA molecule that simultaneously encodes at least one antisense RNA and at least one sense RNA, where said antisense RNA and said sense RNA form a double-stranded RNA molecule that reduces the expression of at least one endogenous gene encoding a BEII protein, said DNA molecule comprising at least 500 nucleotides of SEQ ID NO: 6;

53. (Previously presented) The plant cell of claim 52, wherein

said first foreign nucleic acid molecule is a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a SSIII protein, said DNA molecule comprising at least 500 nucleotides of SEQ ID NO: 1;

said second foreign nucleic acid molecule is a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a BEI protein, said DNA molecule comprising at least 500 nucleotides of SEQ ID NO: 4; and

said third foreign nucleic acid molecule is a DNA molecule encoding at least one antisense RNA that reduces the expression of at least one endogenous gene encoding a BEII protein, said DNA molecule comprising at least 500 nucleotides of SEQ ID NO: 6.